AQUIFER PROTECTION PERMIT 106187
PLACE ID 138660, LTF 63557
SIGNIFICANT AMENDMENT

1.0 AUTHORIZATION

In compliance with the provisions of Arizona Revised Statutes (A.R.S.) Title 49, Chapter 2, Articles 1, 2 and 3, Arizona Administrative Code (A.A.C.) Title 18, Chapter 9, Articles 1 and 2, A. A. C. Title 18, Chapter 11, Article 4 and amendments thereto, and the conditions set forth in this permit, the Arizona Department of Environmental Quality (ADEQ) hereby authorizes Arizona Solar One LLC to operate the Solana Generating Station (SGS) located at 57750 South Painted Rock Dam Road, Gila Bend, Arizona, over groundwater of the Gila Bend Groundwater Basin, in Section 9, Range 7 West, Township 6 South of the Gila and Salt River Base Line and Meridian.

This permit becomes effective on the date of the Water Quality Division Director's signature and shall be valid for the life of the facility (operational, closure, and post-closure periods), unless suspended or revoked pursuant to A.A.C. R18-9-A213. The permittee shall construct, operate and maintain the permitted facilities:

1. Following all the conditions of this permit including the design and operational information documented or referenced below, and
2. Such that Aquifer Water Quality Standards (AWQS) are not violated at the applicable point(s) of compliance (POC) set forth below, or if an AWQS for a pollutant has been exceeded in an aquifer at the time of permit issuance, that no additional degradation of the aquifer relative to that pollutant, and as determined at the applicable POC, occurs as a result of the discharge from the facility.

1.1 PERMITTEE INFORMATION

Facility Name:	Solana Generating Station
Facility Address:	57750 S. Painted Rock Dam Road Gila Bend, Arizona 85337
County:	Maricopa
Permittee:	Arizona Solar One LLC
Permittee Address:	57750 S. Painted Rock Dam Road Gila Bend, Arizona 85337
Facility Contact:	Carrolette Winstead, Facility Environmental Manager
Emergency Phone No.:	602-282-8887 or (cell) 480-619-9147
Permitted Flow Rate:	149,760 gallons per day (gpd)
Latitude/Longitude:	32º 55' 12" North / 112º 58' 48" West
Legal Description:	Township 6 South, Range 7 West, Sections 3, 4, 5, 8, 9, 10 and 16, Gila and Salt River Base Line and Meridian, Maricopa County, Arizona

1.2 AUTHORIZING SIGNATURE

_____

Trevor Baggiore, Director
Water Quality Division
Arizona Department of Environmental Quality

Signed this _____day of _____, 2016

THIS AMENDED PERMIT SUPERCEDES ALL PREVIOUS PERMITS

2.0 SPECIFIC CONDITIONS [ARS §§ 49-203(4) & 49-241(A)]

2.1 Facility/Site Description [ARS § 49-243(K)(8)]

The Solana Generating Station (SGS) is a 280 megawatt (gross) solar electric power plant covering approximately 2,300 acres, including a 59-acre Power Island. The SGS uses parabolic troughs to concentrate solar energy to raise the temperature of the heat transfer fluid (HTF) circulating through a closed loop system in the solar array field. The hot HTF generates steam in solar steam generators, which connect to a steam turbine generator to produce electrical power. The HTF (acting as a heat exchanger) can also be used to heat molten salt in tanks storing up to 6 hours of thermal energy that can be used during cloudy days, night time periods, and/or peak summer demand periods to supplement existing power sources. The Power Island is the central area receiving the HTF from the surrounding parabolic troughs and it is where the electric power is produced.

The facilities permitted under this Aquifer Protection Permit (APP) include 20 Drywells located in the power block area; five evaporation ponds; a bioremediation facility and a five to seven vehicles per day vehicle/equipment wash facility. The vehicle/equipment wastewater shall be discharged to the evaporation ponds

The process water for the plant is supplied by on-site production groundwater wells and piped to the Raw/Fire Aboveground Storage Tank (AST). The AST Water is discharged directly from the Raw/Fire Water AST for fire suppression and miscellaneous process water treatment area uses. Process water is treated by flocculation, multi-media filtration, and reverse osmosis. Most of the treated process water goes to the Process Water AST for use as cooling tower make-up. Reject water from the process water treatment system is discharged to the Wastewater AST prior to disposal in the evaporation ponds. A portion of the treated process water is further demineralized in an RO system to produce ultrapure water for use in rinsing the solar collectors and as boiler make-up water. This water is stored in the Demineralized Water AST. Reject water from the demineralization process is recycled to the Process Water AST. Wastewater from rinsing solar collectors is taken directly from the Demineralized Water AST. The boiler make-up water is treated in mixed-bed polishers prior to use. Cooling towers receive water from the Process Water AST and boiler blowdown water. This water is cycled several times through the cooling tower before being recycled through the process water treatment system. All process water tanks, the Wastewater AST, and associated piping are exempt from APP.

A self-contained Bioremediation Facility will receive any soils impacted by incidental leaks of HTF. The Bioremediation Facility is a holding area where the bacteria naturally present in the soils bioremediate any HTF in impacted soils. Soils impacted by HTF spills will be collected and hauled to the Bioremediation Facility. Soils will be spread on the concrete slab and allowed to naturally bioremediate with the addition of fertilizer and water. Treated soils will be used on-site as needed for fill material.

This amendment was submitted to:

- Reduce the freeboard in the five evaporation ponds from two (2) feet to one (1) foot and
- To reduce the flow from 216,000 gpd to 149,760 gpd.

The site includes the following permitted discharging facilities:

Facility	Latitude (North)	Longitude (West)
Evaporation Pond A	32º 54’ 41.00”	112º 58’ 51.98”
Evaporation Pond B	32º 54’ 36.77”	112º 58’ 51.93”
Evaporation Pond C	32º 54’ 41.09”	112º 58’ 40.85”
Evaporation Pond D	32º 54’ 36.86”	112º 58’ 40.80”
Evaporation Pond E	32º 54’ 38.43”	112º 59’ 00.30”
Bioremediation Facility	32º 54’ 41.89”	112º 58’ 32.60”
Vehicle/equipment wash facility	32º 55’ 25.33”	112º 58’ 43.74”
Dry Well 1	32º 55’ 25.00”	112º 58’ 45.14”
Dry Well 2	32º 55’ 25.58”	112º 58’ 44.11”
Dry Well 3	32º 55’ 24.49”	112º 58’ 44.05”
Dry Well 4	32º 55’ 23.92”	112º 58’ 45.08”
Dry Well 5	32º 55’ 24.93”	112º 58’ 46.03”
Dry Well 6	32º 55’ 24.92”	112º 58’ 47.02”
Dry Well 7	32º 55’ 24.92”	112º 58’ 47.93”
Dry Well 8	32º 55’ 25.55”	112º 58’ 48.42”
Dry Well 9	32º 55’ 25.55”	112º 58’ 47.47”

Dry Well 10	32º 55' 25.57"	112º 58' 46.56"
Dry Well 11	32º 55' 14.28"	112º 58' 39.54"
Dry Well 12	32º 55' 39.56"	112º 58' 39.56"
Dry Well 13	32º 55' 12.22"	112º 58' 39.38"
Dry Well 14	32º 55' 11.28"	112º 58' 39.55"
Dry Well 15	32º 55' 10.09"	112º 58' 44.66"
Dry Well 16	32º 55' 11.80"	112º 58' 45.96"
Dry Well 17 (07-49233-10)	32º 55' 10.10"	112º 58' 47.60"
Dry Well 18 (07-49234-10)	32º 55' 09.90"	112º 58' 39.00"
Dry Well 19 (07-45994-10)	32º 55' 10.90"	112º 58' 53.20"
Dry Well 20 (07-45995-10)	32º 55' 10.90"	112º 58' 51.40"

Annual Registration Fee [ARS § 49-242(D) and A.A.C. R18-14-104]
The annual registration fee for this permit is payable to ADEQ each year. The permitted flow for fee calculation is 149,760 gallons per day (gpd). If the facility is not yet constructed or is incapable of discharge at this time, the permittee may be eligible for reduced fees under the rule. Send all correspondence requesting reduced fees to the Water Quality Division of ADEQ. Please reference the permit number, LTF number and why reduced fees are requested under the rule.

Financial Capability [ARS § 49-243(N) and A.A.C. R18-9-A203]
The permittee has demonstrated financial capability under A.R.S. § 49-243(N) and A.A.C. R18-9-A203. The permittee shall maintain financial capability throughout the life of the facility. The estimated closure cost is $952,173. The financial assurance mechanism was demonstrated through a Performance Surety Bond under A.A.C. R18-9-A203(C)(2).

2.2 Best Available Demonstrated Control Technology

Best Available Demonstrated Control Technology (BADCT) includes the double- lined evaporation ponds with leak collection and recovery system (LCRS). All ponds are designed and maintained to provide surface water control for a 100-year, 24-hour storm event. The 20 regulated dry wells were designed to receive stormwater only. Each well is equipped with flow control and pre-treatment devices as BADCT. The vehicle/equipment wash wastewater and any excess standing water from rainfall in the bioremediation facility shall be discharged through the oil/water separator to the evaporation ponds. BADCT for the evaporation ponds was approved by ADEQ with the original APP issued on July 27, 2012. The addition of fertilizer and water to the bioremediation facility does not require an upgrade to BADCT because the facility design (concrete construction with water stop) prevents discharge.

2.2.1. Evaporation Pond

2.2.1.1. Engineering Design

The evaporation ponds were constructed in accordance with ADEQ-approved plans, containing the following design elements.

2.2.1.1.1. Subgrade Preparation

The native soil subgrade was compacted to a minimum of 95 percent standard proctor maximum dry density (ASTM Method D698). The subgrade was free of debris or angular material that could damage the synthetic liner.

2.2.1.1.2. Liner Design

The evaporation ponds were lined with a composite lining system consisting of two layers of 60-mil high-density polyethylene (HDPE), separated by a 200-mil geonet drainage layer. The liners are designed to allow any leakage that may pass through anomalies or leaks in the top liner to flow to a perforated HDPE drain pipe which will convey the leakage to one of two leak collection sumps in each pond via gravity flow. The drainage layer achieves a hydraulic conductivity of 10^{-2} centimeters per second or greater and was placed at a minimum slope of 1 percent to promote drainage to the collection sump. The liners are anchored in a 2.5-foot-deep by 2-foot-wide backfilled trench.

2.2.1.1.3. Storage Capacity and Freeboard

The evaporation ponds were designed to contain the total inflow of wastewater in a typical year. Each pond has a maximum capacity of 18.9 million gallons to the freeboard, a water surface area of approximately 311,374 square feet. Each pond shall maintain 1 foot of freeboard. The total storage volume of the ponds is approximately 94.5 million gallons. The ponds are approximately 880 feet by 371 feet at the top inside edge of the berm, with an average depth of approximately 5.5 feet at the berm. Depth of pond is 12.28 feet from the lowest points (sumps) to the top of berm.

The ponds have side slopes of 3 Horizontal (H): 1 Vertical (V). Discharge limits for storage capacity and freeboard are presented in Section 2.3.1. The ponds shall be cleaned as necessary to maintain the required freeboard. The cleaning frequency is estimated at 20 to 30 years.

2.2.1.1.4. Stormwater Containment and Diversion

The calculated freeboard and holding capacity of each evaporation pond shall include containment of direct precipitation from the 100-year, 24-hour storm event. Run-on from the 100-year 24-hour storm event shall be diverted around the evaporation ponds.

2.2.1.1.5. Wastewater and Liner System Compatibility

All solutions discharged to the lined evaporation ponds shall be compatible with the synthetic liner.

2.2.1.1.6. Leak Collection and Recovery System

Each evaporation pond has two LCRS sumps. The LCRS for each evaporation pond consist of a geonet layer, a leak detection sump, and an observation manhole vault. A portable, submersible pump with pumping capacity of 21 gpm shall be provided for the manhole structures. The pump shall be locally controlled and shall be capable of pumping at a rate adequate to drop the water level in the sump back to a normal level based on sump capacity in the event of an Alert Level 2 (AL2) exceedance. The LCRS shall be inspected according to Table 4.2.1-B.

2.2.2 Bioremediation Facility

The Bioremediation Facility shall be operated to bioremediate on-site soils impacted by HTF in the event of an accidental spill or leak. The facility shall be inspected and maintained according to Table 4.2.1-B. If damage is identified during an inspection that could cause or contribute to a discharge, repairs shall be promptly performed.

2.2.2.1. Engineering Design

The Bioremediation Facility was constructed in accordance with ADEQ approved plans, containing the following design elements:

2.2.2.1.1 Subgrade Preparation

Subgrade for the foundation concrete was constructed by removing the soil under the basin to a depth of 2 feet. Exposed soil shall be scarified to a depth of 8-inches and compacted to 95 percent maximum dry density. Two feet of non-expansive material was compacted to 95 percent of maximum dry density and a 4-inch-thick layer of granular material was placed under the concrete slab.

Facility Design

The Bioremediation Facility is composed of a 12-inch-thick, 100-foot by 150-foot concrete structure with 12-inch-thick 2-foot-high sidewalls. The joints were constructed with waterstops to minimize any leakage from the structure. Special steel tracks were located at the two access points to prevent soils from being tracked outside the Bioremediation Facility. The facility has two entrances that are 8 inches high above the floor.

2.2.2.1.3 Storage Capacity

The Bioremediation Facility has a capacity to store up to 9,849 cubic feet of soil to the edge of the 8-inch-high entrances.

2.2.2.1.4 Stormwater Containment and Diversion

The Bioremediation Facility uses fertilizer and water, in addition to normal precipitation to enhance the biodegradation process by adding moisture to the soil. Excess standing water from precipitation collecting within the structure shall be removed, treated through the OWS and stored in the Wastewater AST for eventual disposal in the evaporation ponds. Stormwater shall be transferred by a portable tank and pump. Run-on from the 100-year 24-hour storm event shall be diverted around the Bioremediation Facility.

2.2.2.2 Pre-Operational Requirements

Within 60 days of starting the addition of fertilizer and water to the bioremediation facility, one water and one solids sample shall be collected and characterized according to Section 4.2, Table 4.2.3. The results of the discharge characterization shall be submitted within the context of an Initial Discharge Monitoring Report (IDMR) as required by Compliance Schedule, Section 3.1.

2.2.3 Dry Wells

2.2.3.1. Engineering Design

The dry wells were constructed in accordance with ADEQ-approved plans. The dry wells shall treat and hold the maximum potential contaminant release quantity for a 100-year, 24-hour storm event and meet the county requirements for stormwater management. No dry well is within 100 feet of water supply well or within 20 feet of an underground storage tank. The bottom of each dry well injection pipe is at least 10 feet above groundwater. Dry wells were installed according to manufacturer's specifications. Each dry well installation includes a settling chamber for flow control and a filter for pretreatment. The dry wells are marked "Stormwater Only" on the surface grate or manhole cover.

2.2.3.2. Site-specific Characteristics

Site-specific characteristics were not used to determine BADCT.

2.2.3.3. Operational Requirements

The drywells shall be operated only for the disposal of stormwater and in accordance with the BMPP. Dry wells shall be inspected quarterly and maintained according to the schedule in Table 4.2.1. Sediment removed from the dry wells shall be disposed off-site in accordance with Federal, state and local requirements. If damage is identified during an inspection that could cause or contribute to a discharge, proper repairs shall be promptly performed.

2.2.4 Vehicle/equipment washing facility

The vehicle/equipment washing facility was constructed in the Power Block area. The vehicle/equipment wash pad was constructed of graded concrete, such that the wash water shall be collected in a sump and pumped manually to the oil/water separator before being discharged to the double-lined ponds.

2.3 Discharge Limitations [ARS §§ 49-201(12), 49-201(14), & 49-243 and A.A.C. R18-9-A205(B)]

2.3.1 Evaporation Ponds

2.3.1.1 Holding Capacity and Freeboard

A freeboard of 1 foot shall be maintained in each evaporation pond at all times. Total maximum design holding capacity for each evaporation pond shall be 18.9 million gallons allowing 1 foot of freeboard, as noted on the final ADEQ-approved construction drawings.

2.3.1.2 Authorized and Unauthorized Materials

Authorized discharge to the evaporation ponds shall consist of and be restricted to industrial wastewater from the Waste Water AST and direct precipitation. Discharges to the evaporation ponds shall not contain any organic solvents or hazardous substances (A.R.S. § 49-201(19)) that are not associated with aforementioned routine operations and the authorized waste streams. In the event of an unauthorized discharge or accidental spill, the permittee shall initiate the contingency requirements as described in Section 2.6.3 (Discharge Limit Violations) and 2.6.5 (Emergency Response and Contingency Requirements for Spills and Unauthorized Discharges).

2.3.1.3 Maintenance

The permittee shall maintain the evaporation ponds to the maximum extent practicable to ensure that there are no liner failures, uncontrollable leaks, overtopping, berm breaches, accidental spills, or other unauthorized discharges into the environment.

2.3.1.4 Evaporation Pond Monitoring Requirements

The evaporation ponds shall be inspected and the discharges monitored in accordance with Section 2.5 (Monitoring Requirements) and Section 4.2 (Compliance (or Operational) Monitoring) of this permit. The LCRS shall he monitored in accordance with Table 4.2.2.

2.3.2 Bioremediation Facility

Authorized materials in the Bioremediation Facility shall consist of and be restricted to site soils impacted by releases of HTF and the addition of fertilizer and water, as needed, to enhance the bioremediation process. Discharges to the Bioremediation Facility shall not contain any organic solvents or hazardous substances (A.R.S. § 49-201(19)) that are not associated with aforementioned routine operations and the authorized waste streams. In the event of an unauthorized discharge or accidental spill, the permittee shall initiate the contingency requirements as described in Section 2.6.3 (Discharge Limit Violations) and 2.6.5 (Emergency Response and Contingency Requirements for Spills and Unauthorized Discharges).

2.3.3 Dry Wells

Authorized discharges to the dry wells shall consist of and be restricted to stormwater from the Power Island. Discharges to the dry wells shall not contain any organic solvents or hazardous substances (A.R.S. § 49-201(19)) that are not

associated with aforementioned routine operations and the authorized waste streams. In the event of an unauthorized discharge or accidental spill, the permittee shall initiate the contingency requirements as described in Section 2.6.3 (Discharge Limit Violations) and 2.6.5 (Emergency Response and Contingency Requirements for Spills and Unauthorized Discharges).

2.4 Points of Compliance [ARS § 49-244]

The installation of groundwater monitoring wells is not required at permit issuance. If groundwater monitoring is necessary in the future, the groundwater flow conditions shall be reassessed to determine if the designated POC locations are still appropriate.

The POC(s) are established at the following well locations:

POC Identification	Latitude	Longitude
POC #1 (Power Island)	32º 54' 45.61" N	112º 58' 46.50" W
POC #2 (Evaporation Ponds)	32º 55' 27.98" N	112º 58' 46.40" W

The Director may amend this permit to designate additional POCs if information on groundwater gradients, groundwater quality, or groundwater usage indicates the need.

2.5 Monitoring Requirements [ARS § 49-243(K)(1) and A.A.C. R18-9-A206(A)]

All monitoring required in this permit shall continue for the duration of the permit, regardless of the status of the facility. All sampling, preservation, and holding times shall be in accordance with currently accepted standards of professional practice. Trip blanks, equipment blanks, and duplicate samples shall also be obtained, and chain of custody procedures shall be followed, in accordance with currently accepted standards of professional practice. Copies of laboratory analyses and chain of custody forms shall be maintained at the permitted facility. Upon request, these documents shall be made immediately available for review by ADEQ personnel.

2.5.1 Discharge Monitoring

2.5.1.1 Routine Discharge Quality Monitoring

Routine discharge monitoring is not required at time of permit issuance.

2.5.1.2 Contingency Discharge Monitoring

Section 2.6 of this permit contains provisions for collection of samples from the LCRS and wastewater in the evaporation ponds in the event of an AL#2 exceedance.

2.5.2. Facility / Operational Monitoring

The permittee shall maintain and inspect the evaporation ponds, Bioremediation Facility, and dry wells according to Table 4.2.1. The facilities shall be maintained to ensure that performance levels in Table 4.2.1 are met. Results of the inspections shall be recorded in the facility log book and maintained according to Section 2.7.2 (Operation Inspection/Log Book Recordkeeping).

2.5.3. Groundwater Monitoring and Sampling Protocols

Routine groundwater monitoring is not required under the terms of this permit. If groundwater monitoring is required in the future, monitoring wells shall be installed and located as specified in Section 2.4 (Points of Compliance).

2.5.4. Surface Water Monitoring and Sampling Protocols

Routine surface water monitoring is not required under this permit.

2.5.5 Analytical Methodology

All samples collected for compliance monitoring shall be analyzed using Arizona state-approved methods. If no state-approved method exists, then any appropriate EPA-approved method shall be used. Regardless of the method used, the detection limits must be sufficient to determine compliance with the regulatory limits of the parameters specified in this permit. If all methods have detection limits higher than the applicable limit, the permittee shall follow the contingency requirements of Section 2.6 and may propose "other actions" including amending the permit to set higher limits. Analyses shall be performed by a laboratory licensed by the Arizona Department of Health Services, Office of Laboratory Licensure and Certification unless exempted under A.R.S. § 36-495.02. For results to be considered valid, all analytical work shall meet quality control standards specified in the approved methods. A list of Arizona state-certified laboratories can be obtained at the address below:

Arizona Department of Health Services
Office of Laboratory Licensure and Certification
1740 W. Adams Street, Room 203 North

Phoenix, AZ 85007
Phone: (602) 364-0720

2.5.6 Installation and Maintenance of Monitoring Equipment

Monitoring equipment required by this permit shall be installed and maintained so that representative samples required by the permit can be collected. If new groundwater wells are determined to be necessary, the construction details shall be submitted to the ADEQ GWS for approval prior to installation and the permit shall be amended to include any new points.

2.6 Contingency Plan Requirements [ARS §§ 49-243(K)(3)&(7) and A.A.C. R18-9-A204&A205]

2.6.1 General Contingency Plan Requirements

At least one copy of this permit and the approved contingency and emergency response plan submitted in the application shall be maintained at the location where day-to-day decisions regarding the operation of the facility are made. The permittee shall be aware of and follow the contingency and emergency plan.

Any AL that is exceeded or any violation of an AQL discharge limit (DL), or other permit condition shall be reported to ADEQ following the reporting requirements in Section 2.7.3.

Some contingency actions involve verification sampling. Verification sampling shall consist of the first follow-up sample collected from a location that previously indicated a violation or the exceedance of an AL. Collection and analysis of the verification sample shall use the same protocols and test methods to analyze for the pollutant or pollutants that exceeded an AL or violated an AQL. The permittee is subject to enforcement action for the failure to comply with any contingency actions in this permit. Where verification sampling is specified in this permit, it is the option of the permittee to perform such sampling. If verification sampling is not conducted within the timeframe allotted, ADEQ and the permittee shall presume the initial sampling result to be confirmed as if verification sampling has been conducted. The permittee is responsible for compliance with contingency plans relating to the exceedance of an AL or violation of a DL, AQL or any other permit condition.

2.6.2 Exceeding of Alert Levels Set for Operational Conditions

2.6.2.1 Exceeding of Alert Levels and Performance Levels

A. Performance Levels Set for Freeboard

In the event that freeboard performance levels in a surface impoundment are not maintained as described in Section 4.2, Table 4.2.1, the permittee shall:

1. Within 2 hours of discovery, cease or reduce discharging to the impoundment to prevent overtopping. Remove and properly dispose or recycle to other operations the excess fluid in the impoundment until the water level is restored at or below the permitted freeboard limit.
2. Within 5 days of discovery, evaluate the cause of the incident and adjust operational conditions as necessary to avoid future occurrences.
3. Record in the facility log, the amount of fluid removed a description of the removal method, and the disposal arrangements. The facility log shall be maintained according to Section 2.7.2 (Operation Inspection/Log Book Recordkeeping). Records documenting each freeboard incident and actions taken to correct the problem shall be included in the current report, as required in Section 2.7.1 (Self Monitoring Report Forms).
4. The facility is no longer on alert status once the operational indicator no longer indicates that the freeboard performance level is being exceeded. The permittee shall, however, complete all tasks necessary to return the facility to its pre-alert operating condition.

B. Performance Levels - Other Than Freeboard

1. If an operational performance level listed in Section 4.2, Table 4.2.1 has been observed or noted during required inspection and operational monitoring, the permittee shall immediately investigate to determine the cause of the condition. The investigation shall include the following:
   a. Inspection, testing, and assessment of the current condition of all treatment or pollutant discharge control systems that may have contributed to the operational performance condition; and
   b. Review of recent process logs, reports, and other operational control information to identify any unusual occurrences.
2. The performance level exceedance, results of the investigation, and any corrective action taken shall be reported to the ADEQ, WQCS, within 30 days of the discovery of the condition.

Upon review of the submitted report, ADEQ may amend the permit to require additional monitoring, increased frequency of monitoring, or other actions.

3. The permittee shall initiate actions identified in the approved contingency plan referenced in Section 3.0 and any specific contingency measures identified in Section 2.6 to resolve any problems identified by the investigation which may have led to an AL being exceeded. To implement any other corrective action the permittee shall obtain prior approval from ADEQ according to Section 2.6.6.

C. Exceeding of Performance Levels Set for Bioremediation Facility and Dry Wells

1. If a performance standard for the Bioremediation Facility or a dry well specified in Table 4.2.1 has been exceeded the permittee shall:

a. Immediately upon becoming aware of exceeding a performance level, suspend use of the affected area of the Bioremediation Facility or isolate the affected dry well(s). Transport any standing water in the Bioremediation Facility to the OWS for treatment prior to discharge to the evaporation ponds. Place magnetic caps over dry wells, as necessary.

b. The permittee shall complete all tasks necessary to return the facility to the pre-alert operating condition. Evaluate the operational and maintenance procedures and make needed adjustments to avoid future exceedances. Records in the facility log book the actions taken if any, a description of any removal method, and the disposal arrangements. The facility log shall be maintained according to Section 2.7.2 (Operation Inspection/Log Book Recordkeeping). Records documenting each performance level exceedance and actions taken to correct the problem shall be included in the annual report as required in Section 2.7.4.

2. The facility is no longer on alert status once the operational indicator performance level is no longer being exceeded.

3. Results of the investigation and any corrective action taken shall be reported to the ADEQ, WQCS, within 30 days of the discovery of the condition. Upon review of the submitted report, ADEQ may amend the permit to require additional monitoring, increased frequency of monitoring, or other actions.

D. Exceeding AL#1 for Normal Liner Leakage in the Evaporation Ponds

Within 5 days of discovery of exceeding AL#1 as specified in Section 4.2, 4.2.2, the permittee shall take the following actions:

a. Determine if the fluid in the collection sump is wastewater from the contributing evaporation pond by measuring the pH and conductivity of fluids in the contributing evaporation pond and in the sump to allow direct comparison in wastewater quality.

b. Within 15 days, assess the condition of the liner system using visual methods, electrical leak detection, or other methods as applicable.

c. Repair all identified areas of leakage within 90 days of discovery.

d. Within 30 days of discovery of exceeding AL#1, the permittee shall submit a report to the ADEQ Water Quality Compliance Section. The report shall include the results of the initial liner evaluation, methods used to locate the leak(s) if applicable, any repair procedures implemented to restore the liner to optimal operational status if required, and other information necessary to ensure the future occurrence of the incidence shall be minimized.

e. For leakage rates that continue to exceed AL#1 and are below AL#2, a Liner Leakage Assessment Report shall be included in the next annual report described in Section 2.7.4 of this permit. The permittee may also submit the Liner Leakage Assessment Report to the ADEQ prior to the annual report due date. This Liner Leakage Assessment Report shall be submitted to the ADEQ, WQCS and the ADEQ, GWS.

E. Exceeding AL#2 for Normal Liner Leakage in the Evaporation Ponds

Within 24 hours of discovery of AL#2 as specified in Section 4.2, Table 4.2.2 has been exceeded; the permittee shall take the following actions:

a. Immediately cease all discharge to the evaporation pond or redirect the discharge to one or more of the other evaporation ponds with adequate freeboard and which do not have an AL#2 violation. Within 24 hours, determine if water in the collection sumps is wastewater from the evaporation impoundment by measuring the pH and conductivity of

fluids contained in the impoundment and in the sump to allow direct comparison in water quality.

b. Within 5 days of discovery, notify the ADEQ WQCS, in accordance with Section 2.7.3 (Permit Violation and Alert Level Status Reporting) and include an assessment regarding the type of water in the sump based upon the measurements taken according to 2(a) listed above.
c. Within 5 days, collect samples from the liquid contained in the collection sump and analyze the samples in accordance with Table 4.3.1. Within 30 days of exceeding an AL#2, submit the analytical data to the ADEQ WQCS.
d. Within 5 days, remove or transfer fluid from the impoundment to an alternate impoundment or offsite disposal location and identify the location of the leak(s) using visual methods, electrical leak detection, or other methods as applicable.
e. Within 30 days of exceeding an AL#2, submit a report to the ADEQ as specified in Section 2.7.3 (Permit Violation and Alert Level Status Reporting). Upon review of the report, the ADEQ may request additional monitoring or remedial actions.
f. Within 60 days of exceeding an AL#2, submit for approval to the ADEQ, a corrective action plan to address all problems identified from the assessment of the liner system. At the direction of the ADEQ, the permittee shall implement the approved plan.
g. Within 30 days of being directed to implement the plan by the ADEQ, repair any leaks identified in Item (d) above and perform all approved corrective actions.
h. Within 30 days of completion of corrective actions, submit to the ADEQ, a written report as specified in Section 2.6.6 (Corrective Actions).

2.6.2.2 Exceeding of Alert Levels Set for Discharge Monitoring

Routine discharge monitoring is not required at the time of permit issuance.

2.6.2.3 Exceeding of Alert Levels in Groundwater Monitoring

Routine groundwater monitoring is not required at the time of permit issuance.

2.6.3 Discharge Limit Violations

2.6.3.1 Liner Failure, Containment Structure Failure, or Unexpected Loss of Fluid

If there is an unexpected loss of fluid in an evaporation impoundment, any failure of the containment structure, or leakage through the liner system such that fluids are released to the vadose zone, the permittee shall take the following actions:

1. Immediately cease all discharges into the affected evaporation pond as necessary to prevent any further releases to the environment.
2. Within 24 hours of discovery, notify the ADEQ WQCS.
3. Within 5 days of discovery of a failure that resulted in a release to the subsurface, collect representative sample of the remaining wastewater in the evaporation pond. Analyze samples for the parameters specified in Table 4.3.1. A copy of the analytical results shall be submitted to the ADEQ WQCS within 30 days of the incident
4. Within 5 days of discovery, remove and properly dispose any remaining liquid in the affected evaporation pond as necessary to prevent further releases to the subsurface and/or to perform repairs. Record in the facility log, the amount of wastewater removed a description of the removal method, and the disposal arrangements. The facility log shall be maintained according to Section 2.7.2 (Operation Inspection/Log Book Recordkeeping).
5. Within 30 days of discovery, initiate an evaluation to determine the cause for the incident. Identify the circumstances that resulted in the failure and assess the condition of the structure and liner system. Implement any corrective actions necessary to resolve the problems identified in the incident. Repair any failed liner, system, structure, or other component as needed to restore proper functioning of the evaporation pond. The permittee shall not resume discharging to the impoundment until repairs of any failed liner or structure are performed. Repair procedures, methods, and materials used to the restore the system(s) to proper operating condition shall be described in the APP facility log and available to ADEQ for review.
6. Within 30 days of discovery of the incident, submit a report to the ADEQ as specified in Section 2.7.3 (Permit Violation and Alert Level Status Reporting). Include a description of the actions performed in Items 1-5 listed above. Upon review of the report, the ADEQ may request additional monitoring or remedial actions.
7. Within 60 days of discovery, conduct an assessment of the impacts to the subsoil and/or groundwater

resulting from the incident. If soil or groundwater is impacted, submit a corrective action plan to the ADEQ WQCS, for approval, to address problems identified in the assessment, including identification of releases to the environment, remedial actions and/or monitoring, and a schedule for completion of the activities. At the direction of the ADEQ, the permittee shall implement the approved plan.

8. Within 30 days of completion of corrective actions, submit to ADEQ, a written report as specified in Section 2.6.6 (Corrective Actions)
9. The permittee shall not resume discharging into the affected evaporation pond until appropriate repairs of any failed liner or structure are performed. Repair procedures, methods, and materials used to restore the affected evaporation pond to proper operation shall be described in the facility log and available to the ADEQ for review.

2.6.3.2 Overtopping of an Evaporation Impoundment

If overtopping of an evaporation pond occurs, the permittee shall:

1. Immediately cease discharging to the affected evaporation pond to prevent further releases to the environment.
2. Within 24 hours of discovery, notify the ADEQ WQCS.
3. Within 5 days of discovery, remove and properly dispose all excess water in the impoundment until the water level is restored at or below the required 2 feet of freeboard. Record in the facility log, the amount of wastewater removed a description of the removal method, and the disposal arrangements. The facility log shall be maintained according to Section 2.7.2 (Operation Inspection/Log Book Recordkeeping).
4. Within 5 days of discovery, collect representative samples of the wastewater contained in the affected evaporation pond. Analyze samples for the parameters specified in Section 4.3.1. Within 30 days of the incident, submit a copy of the analytical results to the ADEQ WQCS.
5. Within 30 days of discovery, evaluate the cause of the overtopping and identify the circumstances that resulted in the incident. Implement corrective actions and adjust operational conditions as necessary to resolve the problems identified in the evaluation. Repair any systems as necessary to prevent future occurrences of overtopping.
6. Within 30 days of discovery of overtopping, submit a report to the ADEQ as specified in Section 2.7.3 (Permit Violation and Alert Level Status Reporting). Include a description of the actions performed in Items 1-5 listed above. Upon review of the report, ADEQ may request additional monitoring or remedial actions.
7. Within 60 days of discovery, conduct an assessment of the impacts to the subsoil and/or groundwater resulting from the incident. If soil or groundwater is impacted, submit a corrective action plan to the ADEQ WQCS, for approval, to address problems identified in the assessment, including identification of releases to the environment, remedial actions and/ or monitoring, and a schedule for completion of the activities. At the direction of the ADEQ, the permittee shall implement the approved plan.
8. Within 30 days of completion of corrective actions, submit to ADEQ, a written report as specified in Section 2.6.6 (Corrective Actions)

2.6.3.3 Discharge of Unauthorized Materials

Authorized discharges are specified under Sections 2.3.1.2 (evaporation ponds) and 2.3.2 (Bioremediation Facility). If any unauthorized materials are discharged to the evaporation ponds or Bioremediation Facility, the permittee shall take the following actions:

1. Immediately cease all unauthorized discharges to the effected facility. If the discharge is to an evaporation pond, immediately close any shared valves between ponds.
2. Within 24 hours of discovery, notify the ADEQ WQCS.
3. Within 5 days of the incident, identify the source of the material and determine the cause for the discharge. Evaluate the discharge to determine if it is compatible with the impoundment liner or Bioremediation Facility surface, as appropriate. Based on the evaluation of the incident, repair any systems or equipment and/or adjust operations, as necessary to prevent future occurrences of unauthorized discharges.
4. Within 30 days of a discharge of unauthorized materials, submit a report to the ADEQ as specified in Section 2.7.3 (Permit Violation and Alert Level Status Reporting). Include a description of the actions performed in 1 through 3 listed above. Upon review of the report, the ADEQ may request additional monitoring or remedial actions.

2.6.3.4 Discharge of Unauthorized Materials to a Dry Well

In the event of a spill of a hazardous or toxic substance to a dry well, the permittee shall:

1. Notify ADEQ within 24 hours of any spill of hazardous or toxic substance that enters the dry well inlet.
2. Contain, clean up, and dispose of any spill or leak of a hazardous substance in the dry well drainage area and basin drainage area according to Federal, state or local requirements.

3. If the spill reaches the dry well injection pipe, the permittee shall notify ADEQ and implement an investigation according to ADEQ's current Dry Well Investigation Guidelines.
4. Within 30 days, submit a report to the ADEQ as specified in Section 2.7.3 (Permit Violation and Alert Level Status Reporting). Include a description of the actions performed in 1 through 3 listed above. Upon review of the report, the ADEQ may request additional monitoring or remedial actions.

2.6.4 Aquifer Quality Limit Violation

Reserved

2.6.5 Emergency Response and Contingency Requirements for Spills and Unauthorized Discharges [ARS §§ 49-201(12) & 49-241]

2.6.5.1 Duty to Respond

The permittee shall act immediately to correct any condition resulting from a discharge (ARS § 49-201(12)), if that condition could pose an imminent and substantial endangerment to public health or the environment.

2.6.5.2 Discharge of Hazardous Substances or Toxic Pollutants

In the event of any unauthorized discharge (ARS § 49-201(12)) of suspected hazardous substances (ARS § 49-201(19)) or toxic pollutants (ARS § 49-201(37)) on the facility, the permittee shall promptly isolate the area and attempt to identify the spilled material. The permittee shall record information, including name, nature of exposure, and follow up medical treatment, if necessary, on persons who may have been exposed during the incident. The permittee shall notify ADEQ within 24 hours upon discovering the discharge of hazardous material which: a) has the potential to cause an AWQS or AQL to be exceeded; or b) could pose an endangerment to public health or the environment.

2.6.5.3 Discharge of Non-hazardous Materials

In the event of any unauthorized discharge (ARS § 49-201(12)) of non hazardous materials from the facility, the permittee shall promptly attempt to cease the discharge and isolate the discharged material. Discharged material shall be removed and the facility shall be cleaned up as soon as possible. The permittee shall notify the ADEQ within 24 hours upon discovering the discharge of non hazardous material which: a) has the potential to cause an AQL to be exceeded; or b) could pose an endangerment to public health or the environment.

2.6.5.4 Reporting Requirements

The permittee shall submit a written report for any unauthorized discharges reported under Sections 2.6.5.2 and 2.6.5.3 to the ADEQ WQCS within 30 days of the discharge or as required by subsequent ADEQ action. The report shall summarize the event, including any human exposure and facility response activities, and include all information specified in Section 2.7.3. If a notice is issued by ADEQ subsequent to the discharge notification, any additional information requested in the notice shall also be submitted within the time frame specified in that notice. Upon review of the submitted report, ADEQ may require additional monitoring or corrective actions.

2.6.6 Corrective Actions

Specific contingency measures identified in Section 2.6 have already been approved by ADEQ and do not require written approval to implement.

With the exception of emergency response actions taken under Section 2.6.5, the permittee shall obtain written approval from the ADEQ Water Permits Section (WPS) prior to implementing a corrective action to accomplish any of the following goals in response to exceeding an AL or violation of an AQL, DL, or other permit condition:

1. Control of the source of an unauthorized discharge;
2. Soil cleanup;
3. Cleanup of affected surface waters;
4. Cleanup of affected parts of the aquifer;
5. Mitigation to limit the impact of pollutants on existing uses of the aquifer; or
6. Mechanical integrity of injection recovery wells.

Within 30 days of completion of any corrective action, the operator shall submit to the ADEQ WQCS, a written report describing the causes, impacts, and actions taken to resolve the problem.

2.7 Reporting and Recordkeeping Requirements [ARS § 49-243(K)(2) and A.A.C. R18-9-A206 (B) & A207]

2.7.1 Self Monitoring Report Forms

1. When submitting hard copy, the permittee shall complete the Self-monitoring Report Form (SMRF) provided by provided by ADEQ, including contact information for the person completing form and submit the completed form to the to the ADEQ Water Quality Compliance, Data and Enforcement Unit..
2. The permittee shall complete the SMRF to the extent that the information reported may be entered on the form. If no information is required during a quarter, the permittee shall enter "not required" on the form and include an explanation, and submit the form to Water Quality Compliance Data Enforcement Unit. The permittee shall use the format devised by ADEQ.
3. In addition to the SMRF, the information contained in Section 2.7.3 shall be included for exceeding an AL or violation of an AQL, DL, or any other permit condition being reported in the current reporting period.
   - Table 4.2.1 – Facility Inspection Monitoring - Log Book (Evaporation Ponds, Bioremediation Facility, and Dry Wells Monitoring)
   - Table 4.2.2 – Leak Collection and Recovery System Monitoring
   - Table 4.2.3 – Initial Discharge Monitoring –Effluent Characterization
   - Table 4.3.1 – Contingency Discharge Characterization for BADCT Failures and Overtopping

2.7.2 Operation Inspection/Log Book Recordkeeping

A signed copy of this permit shall be maintained at all times at the location where day-to-day decisions regarding the operation of the facility are made. A log book (paper copies, forms, or electronic data) of the inspections and measurements required by this permit shall be maintained at the location where day-to-day decisions are made regarding the operation of the facility. The log book shall be retained for 10 years from the date of each inspection, and upon request, the permit and the log book shall be made immediately available for review by ADEQ personnel. The information in the log book shall include, but not be limited to, the following information as applicable:

1. Name of inspector;
2. Date and shift inspection was conducted;
3. Condition of applicable facility components;
4. Discovery time and date of any damage or malfunction, and the date and time any repairs were performed;
5. Documentation of sampling date and time;
6. Any other information required by this permit to be entered in the log book;
7. Description of the weather including notations on temperature, wind, and rain, which could affect the clarity of each pond;
8. Conditions found at each pond including notations regarding clarity, swirls, or other indicators of possible pond leakage; and
9. Monitoring records for each measurement shall comply with A.A.C. R18-9-A206 (B)(2).

2.7.3 Permit Violation and Alert Level Status Reporting

1. The permittee shall notify the ADEQ WQCS in writing within 5 days (except as provided in Section 2.6.5) of becoming aware of a violation of any permit condition, discharge limitation, or of an Alert Level being exceeded.
2. The permittee shall submit a written report to the ADEQ WQCS within 30 days of becoming aware of the violation of any permit condition or discharge limitation. The report shall document all of the following:
   a. Identification and description of the permit condition for which there has been a violation and a description of its cause;
   b. The period of violation including exact date(s) and time(s), if known, and the anticipated time period during which the violation is expected to continue;
   c. Any corrective action taken or planned to mitigate the effects of the violation, or to eliminate or prevent a recurrence of the violation;
   d. Any monitoring activity or other information which indicates that any pollutants would be reasonably expected to cause a violation of an Aquifer Water Quality Standard;
   e. Proposed changes to the monitoring which include changes in constituents or increased frequency of monitoring; and

f. Description of any malfunction or failure of pollution control devices or other equipment or processes.

2.7.4 Operational, Other, or Miscellaneous Reporting

The permittee shall submit an annual report in narrative and/or tabular form to the ADEQ WQCS that briefly summarizes the status of compliance under this permit. The report shall identify any contingency actions taken, violations of this permit, or any ALs or DLs that have been exceeded; shall summarize the findings of the wastewater containment structure monitoring identified in Table 4.2.1 and contingency monitoring identified in Table 4.3.1 (if conducted); and shall include any other information specifically requested by permit condition to be submitted in the annual report. The annual report is to be submitted by January 30 of each year to cover activities from January 1 through December 31 of the previous year.

2.7.5 Reporting Location

All SMRFs shall be submitted to:

Arizona Department of Environmental Quality
Water Quality Compliance Data and Enforcement Unit
Mail Code: 5415B-1
1110 W. Washington Street
Phoenix, AZ 85007
Phone (602) 771-4681

All documents required by this permit to be submitted to the Water Quality Compliance Section shall be directed to:

Arizona Department of Environmental Quality
Water Quality Inspections and Compliance Unit
Mail Code: 5415B-1
1110 W. Washington Street
Phoenix, AZ 85007
Phone (602) 771-4497

All documents required by this permit to be submitted to the Water Permits Section shall be directed to:

Arizona Department of Environmental Quality
Water Permits Section
Mail Code: 5415B-3
1110 W. Washington Street
Phoenix, AZ 85007
Phone (602) 771-4428

2.7.6 Reporting Deadline

The following table lists the quarterly report due dates:

Monitoring conducted during quarter:	Quarterly Report due by:
January-March	April 30
April-June	July 30
July-September	October 30
October-December	January 30

The following table lists the annual report due dates:

Monitoring conducted:	Report due by:
Annual: January-December	January 30

2.7.7 Changes to Facility Information in Section 1.0

The ADEQ WPS and WQCS shall be notified within 10 days of any change of facility information including Facility Name, Permittee Name, Mailing or Street Address, Facility Contact Person, or Emergency Telephone Number.

2.8 Temporary Cessation [ARS § 49-243(K)(8) and A.A.C. R18-9-A209(A)]

The permittee shall give written notice to the ADEQ WQCS before ceasing operation of any facility covered by this permit for a period of 60 days or greater.

At the time of notification the permittee shall submit for ADEQ approval a plan for maintenance of discharge control systems and for monitoring during the period of temporary cessation. Immediately following ADEQ's approval, the permittee shall implement the approved plan. If necessary, ADEQ shall amend permit conditions to incorporate conditions to address temporary cessation. During the period of temporary cessation, the permittee shall provide written notice to the WQCS of the operational status of the facility every three years. If the permittee intends to permanently cease operation of any facility, the permittee shall submit closure notification, as set forth in Section 2.9 below.

SGS is primarily a peaking power plant. The facility will be placed into a stand-by mode for periods of time that can last several months. During these stand-by periods electrical production will not take place but the facility and site personnel will be prepared to begin operations as needed. The permittee will not be required to notify the ADEQ under the conditions of this section during these stand-by periods.

2.9 Closure [ARS §§ 49-243(K)(6) & 49-252 and A.A.C. R18-9-A209 (B)]

For a facility addressed under this permit, the permittee shall give written notice of closure to the ADEQ WQCS of the permittee's intent to cease operation without resuming activity for which the facility was designed or operated.

2.9.1 Closure Plan

Within 90 days following notification of closure, the permittee shall submit for approval to the ADEQ GWS, a Closure Plan which meets the requirements of ARS § 49-252 and A.A.C. R18-9-A209(B)(3). Furthermore, the plan shall include the following specific activities:

For the evaporation ponds:

1. Allow liquids to evaporate, characterize solids and either close in place or haul to appropriate disposal facility.
2. Inspect liner for evidence of releases. Characterize soils below any holes, tears of defective seals. Revise closure plan to include soil remediation if necessary.
3. Puncture liner to prevent water retention.
4. Backfill and compact the liner to grade.

For the Bioremediation Facility:

1. Allow evaporation of or remove and properly dispose of liquids, if present.
2. Characterize and properly dispose of any soils.
3. Remove concrete slab and sidewalls.
4. Characterize soils beneath the slab. Revise closure plan to include soil remediation if necessary.
5. Re-grade the area to facilitate stormwater runoff.

For the dry wells:

1. Retain licensed drilling contractor.
2. If dry well has received discharges other than stormwater, implement required procedures for clean closure.
3. Otherwise, remove sediments from settling chamber.
4. Remove standpipes, screens and filters.
5. Fill the injection pipe with cement grout.
6. Back fill settling chamber with clean fill.
7. Submit necessary documentation to ADEQ within 30 days.

Vehicle/equipment wash facility:

1. Stop any source of discharge
2. Test for any possible soil or groundwater contamination
3. If any contamination is found in the soil or groundwater, post closure activities will be required including treatment and monitoring.
4. Re-grading the sight as needed.

If the Closure Plan achieves clean closure immediately, ADEQ shall issue a letter of approval to the permittee. If the Closure plan contains a schedule for bringing the facility to a clean closure configuration at a future date, ADEQ may incorporate any part of the schedule as an amendment to this permit.

2.9.2 Closure Completion

Upon completion of closure activities, the permittee shall give written notice to the ADEQ GWS indicating that the approved Closure Plan has been implemented fully, by providing results of all verification sampling, excavation, closure activities, etc. that were performed in accordance with the closure plan. If clean closure has been achieved, ADEQ shall issue a letter of approval to the permittee at that time. If any of the following conditions apply, the permittee shall follow the terms of Post-Closure stated in this permit:

1. Clean closure cannot be achieved at the time of closure notification or within one year thereafter under a diligent schedule of closure actions;
2. Further action is necessary to keep the facility in compliance with aquifer water quality standards at the applicable point of compliance;
3. Continued action is required to verify that the closure design has eliminated discharge to the extent intended;
4. Remedial or mitigative measures are necessary to achieve compliance with Title 49, Ch. 2; or
5. Further action is necessary to meet property use restrictions.

2.10 Post-closure [ARS §§ 49-243(K)(6) & 49-252 and A.A.C. R18-9 A209(C)]

The need for post-closure activities shall be assessed by ADEQ after the report documenting completion of closure activities has been submitted. If any condition other than clean closure is achieved by closure activities, then post closure conditions shall apply and this permit shall be amended to outline post closure requirements.

2.10.1 Post-closure Plan

A specific post-closure plan may be required upon the review of the closure plan.

2.10.2 Post-closure Completion

Not required at the time of permit issuance.

3.0 COMPLIANCE SCHEDULE [ARS § 49-243(K)(5) and A.A.C. R18-9-A208]

For the compliance schedule item listed below, the permittee shall submit the required information, including a cover letter that lists the compliance schedule items, to the Groundwater Section. A copy of the cover letter must also be submitted to the ADEQ Water Quality Compliance Section.

Item No.	Description	Completion/Submittal Date	Permit Amendment Required?
3.1	Initial Discharge Characterization Bioremediation Facility as required by Section 2.2.2.2 Pre-Operational Requirements.	Within 60 days of starting the addition of fertilizer and water to the bioremediation facility, one water and one solids sample shall be collected and characterized The results of the discharge characterization shall be submitted within the context of an Initial Discharge Monitoring Report (IDMR).	NO
3.3	The permittee shall submit updated cost estimates for facility closure and post-closure, as per A.A.C. R18-9-A201(B)(5) and A.R.S. 49-243.N.2.a, and an updated financial assurance demonstration for the updated cost estimate as per A.A.C. R18-9-A203.	Every six (6) years from the date of permit signature, for the duration of the permit.	Yes

4.0 TABLES OF MONITORING REQUIREMENTS

4.1 PRE-OPERATIONAL MONITORING (or CONSTRUCTION REQUIREMENTS)

Refer to Pre-operational Requirements specified in Sections 2.2.2.2, and 3.1.

4.2 COMPLIANCE (or OPERATIONAL) MONITORING

Table 4.2.1 – Facility Inspection Monitoring (Log Book)
Table 4.2.2 – Leak Collection and Recovery System Monitoring
Table 4.2.3 – Initial Discharge Monitoring –Effluent Characterization

4.3 Contingency Monitoring

Table 4.3.1 – Contingency Monitoring Parameters

4.1 PRE-OPERATIONAL MONITORING (or CONSTRUCTION REQUIREMENTS)

Refer to Pre-operational Requirements specified in Sections 2.2.2.2, and 3.1.

4.2 COMPLIANCE (or OPERATIONAL) MONITORING

TABLE 4.2.1

FACILITY INSPECTION MONITORING[1] - Log Book[2]

Parameter	Performance Standards[3]	Monitoring Frequency	Reporting Frequency
Evaporation Ponds (A, B,C,D, and E)	Minimum of 1.0 foot	Weekly	Annually and as otherwise required by Section 2.7
Evaporation Ponds Fluid Level	No unexpected or sudden loss	Weekly and after a significant storm or other natural disaster	Annually and as otherwise required by Section 2.7
Evaporation Ponds Upper Liner Integrity	No visible tears, punctures, cracks, deformities, or other damage due to sunlight, wind, weather, debris, vegetation, animals, or other adverse conditions	Weekly and after a significant storm or other natural disaster	Annually and as otherwise required by Section 2.7
Evaporation Pond Berm Integrity	No visible structural damage, breach, erosion of embankments, or seepage	Weekly and after a significant storm or other natural disaster	Annually and as otherwise required by Section 2.7
Evaporation Pond Leak Collection and Removal Systems (LCRS)	Check measuring device for operational status, no obstruction in the inspection sumps, fluid level maintained below sump capacity, pump(s) maintained in good operating condition	Weekly and after a significant storm or other natural disaster	Annually and as otherwise required by Section 2.7
Bioremediation Facility Integrity	No visible damage, settlement, erosion around, cracking, or impairment of concrete pad	Monthly and after significant storm events	Annually and as otherwise required by Section 2.7
Bioremediation Facility Stormwater Accumulation	No accumulation of stormwater	After storm events	Annually and as otherwise required by Section 2.7
Dry Well Integrity	Flow control and pretreatment equipment in proper working order. Sedimentation chamber less than 25 percent filled. No visible damage, settlement, erosion, corrosion or impairment.	Quarterly	Annually and as otherwise required by Section 2.7
All dry well piping, pumps, valves, controls, magnetic caps (if installed), hydrophobic filters, and gauges as applicable	Documented to be in proper working order	Quarterly	Annually and as otherwise required by Section 2.7

4.0 TABLES OF MONITORING REQUIREMENTS

4.2 COMPLIANCE (or OPERATIONAL) MONITORING

TABLE 4.2.2

1 Evaporation ponds, Bioremediation Facility, and dry wells

2 The permittee shall record the inspection performance levels in a log book as per Section 2.7.2, and report any violations or exceedances as per Section 2.7.3. In the case of an exceedance, identify which structure exceeds the performance level in the log book.

3 Performance Standards monitoring method shall be field observation.

LEAK COLLECTION AND RECOVERY SYSTEM MONITORING[4]

LCRS Sump	Parameter	AL#1[5] (gpd)	AL#2[6] (gpd)	Monitoring Method	Monitoring[7] Frequency	Reporting Frequency[8]
Evaporation Pond A Sumps	Liquid Pumped[9]	4,010	40,184	Manually	Weekly	Quarterly
Evaporation Pond B Sumps	Liquid Pumped	4,010	40,184	Manually	Weekly	Quarterly
Evaporation Pond C Sumps	Liquid Pumped	4,010	40,184	Manually	Weekly	Quarterly
Evaporation Pond D Sumps	Liquid Pumped	4,010	40,184	Manually	Weekly	Quarterly
Evaporation Pond E Sumps	Liquid Pumped	4,010	40,184	Manually	Weekly	Quarterly

4.0 TABLES OF MONITORING REQUIREMENTS

4.2 COMPLIANCE (or OPERATIONAL) MONITORING

TABLE 4.2.3

4 The Alert Level 1 (AL#1) or Alert Level 2 (AL#2) shall be exceeded when the cumulative amount of leakage pumped from the two sumps for an evaporation pond is greater than the applicable quantity in the Table.

5 AL#1= Exceedance in Alert Level #1: Increase LCRS monitoring to daily, including inspection of the LCRS and measurement of fluids evacuated from the collection sump, until the leakage rate is stabilized below Alert Level # 1. The permittee shall place into action the requirements presented in 2.6.2.1.D. Exceedance of an AL is not a violation.

6 AL#2 = Exceedance in Alert Level #2: Immediately cease discharge and collect a single sample from parameter set in Table 4.3.1. The permittee shall place into action the requirements presented in 2.6.2.1.E. Exceedance of an AL is not a violation.

7 LCRS inspection and leakage quantification shall be performed while the impoundment is "in use" (when industrial wastewater is present in the impoundment and/or LCRS). Evacuation of fluids in the sump shall be performed as necessary for accurate monitoring and effective operation of the collection system. Routine analysis of sump fluids is not required. However, characterization of sump fluids is required as a contingency action in Section 2.6.

8 The permittee shall report quarterly of the LCRS monitoring. If no event occurred, the permittee shall state the fact in the Self-Monitoring Report form.

9 The "Liquid Pumped" value to be reported is the amount of liquid pumped from the LCRS sump in gallons per day (gpd).

INITIAL DISCHARGE CHARACTERIZATION[10]

Sampling Point Number	Sampling Point Identification	Latitude	Longitude
1[11]	Bioremediation Facility	32° 54' 38.43" N	112° 58' 32.60" W
Parameter	**Units**	**Sampling Frequency[12]**	**Reporting Frequency[13]**
pH (field)	Standard Units	One Sample	IDMR[14]
Alkalinity	mg/l	One Sample	IDMR
Total Dissolved Solids (TDS)	mg/l	One Sample	IDMR
Specific Conductance (lab)	(µmhos/cm)	One Sample	IDMR
Hardness[15]	Standard Units	One Sample	IDMR
Nitrate + Nitrite	mg/l	One Sample	IDMR
Calcium	mg/l	One Sample	IDMR
Chloride	mg/l	One Sample	IDMR
Fluoride	mg/l	One Sample	IDMR
Magnesium	mg/l	One Sample	IDMR
Potassium	mg/l	One Sample	IDMR
Sodium	mg/l	One Sample	IDMR
Sulfate	mg/l	One Sample	IDMR
Antimony	mg/l	One Sample	IDMR
Arsenic	mg/l	One Sample	IDMR
Barium	mg/l	One Sample	IDMR
Beryllium	mg/l	One Sample	IDMR
Cadmium	mg/l	One Sample	IDMR
Chromium	mg/l	One Sample	IDMR
Lead	mg/l	One Sample	IDMR
Mercury	mg/l	One Sample	IDMR
Nickel	mg/l	One Sample	IDMR
Selenium	mg/l	One Sample	IDMR
Thallium	mg/l	One Sample	IDMR
Zinc	mg/l	One Sample	IDMR
Total Petroleum Hydrocarbons (TPH)	mg/l	One Sample	IDMR
Benzene	mg/l	One Sample	IDMR
Ethylbenzene	mg/l	One Sample	IDMR
Toluene	mg/l	One Sample	IDMR
Total Xylenes	mg/l	One Sample	IDMR

4.0 TABLES OF MONITORING REQUIREMENTS

4.2 COMPLIANCE (or OPERATIONAL) MONITORING

TABLE 4.3.1
CONTINGENCY DISCHARGE CHARACTERIZATION FOR BADCT FAILURES AND OVERTOPPING[16]

10 Effluent Characterization
11 Report soil sample results in mg/kg
12 One sample collected upon commencement of discharge
13 Submit laboratory report within 60 days of sample collection
14 IDMR= Initial Discharge Monitoring Report
15 Hardness may be expressed as the sum of calcium plus magnesium as calcium carbonate (CaCO3)
mg/L = milligrams per liter umhos/cm = micromhos per centimeter
16 Monitor under this table per Section 2.6.3.1, Liner Failure, Containment Structure Failure, or Unexpected Loss of Fluid, Section 2.6.3.2, Overtopping of an Evaporation Impoundment, Section 2.6.3.3, Discharge of Unauthorized Materials to an Evaporation Impoundment, and Section 2.6.3.4, Discharge of Unauthorized Materials to a Drywell.

Parameter	Units	Monitoring Frequency[17]	Reporting Frequency
pH (field)	Standard Units	One sample	Quarterly
Alkalinity	mg/L	One sample	Quarterly
Total Dissolved Solids (TDS)	mg/L	One sample	Quarterly
Specific Conductance (lab)	umhos/cm	One sample	Quarterly
Hardness [18]	Standard Units	One sample	Quarterly
Nitrate + Nitrite	mg/L	One sample	Quarterly
Calcium	mg/L	One sample	Quarterly
Chloride	mg/L	One sample	Quarterly
Fluoride	mg/L	One sample	Quarterly
Magnesium	mg/L	One sample	Quarterly
Potassium	mg/L	One sample	Quarterly
Sodium	mg/L	One sample	Quarterly
Sulfate	mg/L	One sample	Quarterly
Antimony	mg/L	One sample	Quarterly
Arsenic	mg/L	One sample	Quarterly
Barium	mg/L	One sample	Quarterly
Beryllium	mg/L	One sample	Quarterly
Cadmium	mg/L	One sample	Quarterly
Chromium	mg/L	One sample	Quarterly
Lead	mg/L	One sample	Quarterly
Mercury	mg/L	One sample	Quarterly
Nickel	mg/L	One sample	Quarterly
Selenium	mg/L	One sample	Quarterly
Thallium	mg/L	One sample	Quarterly
Zinc	mg/L	One sample	Quarterly
Total Petroleum Hydrocarbons (TPH)	mg/L	One sample	Quarterly
Benzene	mg/L	One sample	Quarterly
Ethylbenzene	mg/L	One sample	Quarterly
Toluene	mg/L	One sample	Quarterly
Total Xylenes	mg/L	One sample	Quarterly

17 One verification sample shall be taken within 5 days of an event.

18 Hardness may be expressed as the sum of calcium plus magnesium as calcium carbonate (CaCO3)

mg/L = milligrams per liter umhos/cm = micromhos per centimeter

5.0 REFERENCES AND PERTINENT INFORMATION

The terms and conditions set forth in this permit have been developed based upon the information contained in the following, which are on file with ADEQ:

1. Original Permit issued: July 27, 2012
2. Significant Amendment issued: April 27, 2015
3. Significant Amendment issued: November 13, 2015
4. Significant Amendment application submitted: January 25, 2016
5. Public Notice:
6. Public Hearing dated:
7. Responsiveness Summary:
8. Notice of Appeal:

6.0 NOTIFICATION PROVISIONS

6.1 Annual Registration Fees

The permittee is notified of the obligation to pay an Annual Registration Fee to ADEQ. The Annual Registration Fee is based upon the amount of daily influent or discharge of pollutants in gallons per day as established by ARS § 49-242(E).

6.2 Duty to Comply [ARS §§ 49-221 through 49-263]

The permittee is notified of the obligation to comply with all conditions of this permit and all applicable provisions of Title 49, Chapter 2, Articles 1, 2 and 3 of the Arizona Revised Statutes, Title 18, Chapter 9, Articles 1 through 4, and Title 18, Chapter 11, Article 4 of the Arizona Administrative Code. Any permit non-compliance constitutes a violation and is grounds for an enforcement action pursuant to Title 49, Chapter 2, Article 4 or permit amendment, suspension, or revocation.

6.3 Duty to Provide Information [ARS §§ 49-243(K)(2) & (K)(8)]

The permittee shall furnish to the Director, or an authorized representative, within a time specified, any information which the Director may request to determine whether cause exists for amending or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this Permit.

6.4 Compliance with Aquifer Water Quality Standards [ARS §§ 49-243(B)(2) & (B)(3)]

The permittee shall not cause or contribute to a violation of an aquifer water quality standard at the applicable point of compliance for the facility. Where, at the time of issuance of the Permit, an aquifer already exceeds an aquifer water quality standard for a pollutant, the permittee shall not discharge that pollutant so as to further degrade, at the applicable point of compliance for the facility, the water quality of any aquifer for that pollutant.

6.5 Technical and Financial Capability [ARS §§ 49-243(K)(8) & 49-243(N) and A.A.C. R18-9- A202(B) & R18-9-A203(E) & (F)]

The permittee shall have and maintain the technical and financial capability necessary to fully carry out the terms and conditions of this permit. Any bond, insurance policy, trust fund, or other financial assurance mechanism provided as a demonstration of financial capability in the permit application, pursuant to A.A.C. R18-9-A203(D), shall be in effect prior to any discharge authorized by this permit and shall remain in effect for the duration of the permit.

6.6 Reporting of Bankruptcy or Environmental Enforcement [A.A.C. R18-9-A207(C)]

The permittee shall notify the Director within five (5) days after the occurrence of any one of the following:

1. The filing of bankruptcy by the permittee; or
2. The entry of any order or judgment not issued by the Director against the permittee for the enforcement of any environmental protection statute or rule.

6.7 Monitoring and Records [ARS § 49-243(K)(8) and A.A.C. R18-9-A206]

The permittee shall conduct any monitoring activity necessary to assure compliance with this permit, with the applicable water quality standards established pursuant to ARS §§ 49-221, 49-223, and 49-241 through 49-252.

6.8 Inspection and Entry [ARS §§ 41-1009, 49-203(B), & 49-243(K)(8)]

In accordance with ARS §§ 41-1009 and 49-203(B), the permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to enter and inspect the facility as reasonably necessary to ensure compliance with Title 49, Chapter 2, Article 3 of the Arizona Revised Statutes, and Title 18, Chapter 9, Articles 1 through 4 of the Arizona Administrative Code and the terms and conditions of this permit.

6.9 Duty to Modify [ARS § 49-243(K)(8) and A.A.C. R18-9-A211]

The permittee shall apply for and receive a written amendment before deviating from any of the designs or operational practices specified by this permit.

6.10 Permit Action: Amendment, Transfer, Suspension, & Revocation [ARS §§ 49-201 & 49-241 through 251 and A.A.C. R18-9-A211 through A213]

This permit may be amended, transferred, renewed, or revoked for cause, under the rules of ADEQ.

The permittee shall notify the ADEQ GWS in writing within 15 days after any change in the owner or operator of the facility. The notification shall state the permit number, the name of the facility, the date of property transfer, and the name, address, and phone number where the new owner or operator can be reached. The operator shall advise the new owner or operators of the terms of this permit and the need for permit transfer in accordance with the rules.

7.0 ADDITIONAL PERMIT CONDITIONS

7.1 Other Information [ARS § 49-243(K)(8)]

Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, the permittee shall promptly submit the correct facts or information.

7.2 Severability [ARS §§ 49-201 & 49-241 through 251 and A.A.C. R18-9-A211, R18-9-A212, & R18-9-A213]

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby. The filing of a request by the permittee for a permit action does not stay or suspend the effectiveness of any existing permit condition.

7.2 Permit Transfer

This permit may not be transferred to any other person except after notice to and approval of the transfer by ADEQ. No transfer shall be approved until the applicant complies with all transfer requirements as specified in A.A.C. R18 9 A212 (B) and (C).